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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/964,359	09/28/2001	Takeshi Tanaka	503.33904RC1	3246

20457 7590 08/26/2003

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EXAMINER

BRIER, JEFFERY A

ART UNIT

PAPER NUMBER

2672

DATE MAILED: 08/26/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/964,359

Applicant(s)

TANAKA ET AL.

Examiner

Jeffery A. Brier

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/09/03 has been entered.

Response to Amendment

2. The amendment filed on 06/09/2003 has been entered. Claims 23, 26, 32, 34, 37, 38, 41, and 42 have been amended by this amendment. On page 4 of the amendment applicant added claims 45 and 46, however, these claims have been renumbered as claims 46 and 47 since a claim 45 was already of record. Thus, this amendment has added new claims 46 and 47. It should be noted that on page 6 line 7 of the amendment applicant correctly makes reference to claim 46. It should be noted that on page 7 lines 25-26 of the amendment applicant correctly makes reference to claim 47.

The dependency of claim 47 is questionable since claim 47 on page 4 depends upon patented claim 21 and on page 7 line 26 claim 47 is referred to as dependent upon claim 26. Correction or clarification is requested. For purposes of the following analysis of the claims it is assumed that claim 47 depends upon claim 26.

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This amendment amended the priority data, see page 1 of the amendment, to state this is a continuation of U.S. Application Serial No. 09/964,359. This is inappropriate since the application serial no. of this file has not been changed. Thus, the priority data in the CROSS REFERENCE TO RELATED APPLICATION needs to be corrected.

3. The drawings filed on 06/09/03 are approved by the examiner.

Response to Argument

4. The Consent of the Assignee is acknowledged and the new Statement under 37 CFR §3.73(b) is accepted.

5. Applicant failed to respond to the requirement that the original patent, or an affidavit or declaration as to loss or inaccessibility of the original patent, must be received before this reissue application can be allowed. This requirement is maintained below.

6. The submitted drawings overcomes the objection to the drawings.

7. On page 5 next to last paragraph to page 8 line13 applicant presents arguments concerning the rejection based upon new matter.

Claim 42 and new claim 46:

The deletion of analog in claim 42 overcomes this new matter rejection of claim 42. The argument concerning new claim 46 is not persuasive because the specification did not describe what the gray scale voltage generating circuit 410 generated and the specification did not describe what type of image signal the driver circuit 21 generates. The driver circuit could in response to gray scale voltage produce either analog or digital image signals since the image signal could be either be amplitude modulated (analog) or temporally modulated (digital).

Claims 25, 27, 34, 39 and 43:

Applicant refers to column 8 lines 6-18 which describes annealing by laser the peripheral region than by accident the gate electrode comes in contact with etchant. The claimed island corresponds to SiN 140 and a-Si 110 which covers the gate electrode which is in the claimed first display area and not the peripheral region. Column 12 lines 33-36 teaches laser annealing only the a-Si layer at the peripheral portion. Thus, the specification did not describe annealing the island but instead described annealing the peripheral region.

Claim 26:

The amendment to claim 26 overcomes the new matter rejection based upon liquid driving source voltage.

Claim 24:

Applicant argues the driver circuit is separate from the substrates because the driver is manufactured at a size different than the TFT size. This is not persuasive because the manufacturing size is not at issue, the issue to be resolved is whether the driver circuit is separate from the substrate. Applicant also maintains figures 9 and 10 show the driver circuit 21 to be separate from the substrate 10. This argument is not persuasive because figures 9 and 10 clearly show driver circuit 21 formed on substrate 10 and column 10 lines 16-19 and 34-45 describes how driver circuit 21 is formed onto substrate 10 by COG technology.

Claim 26:

The amendment to claim 26 overcomes the new matter rejection based upon liquid crystal driving source voltage being in the range of 3V to 5V.

Claim 47:

This claim would be acceptable if it is amended to depend upon claim 26.

Claims 32, 38 and 42:

Applicants amended these claims to claim a switch matrix circuit, however, as pointed out by applicant column 6 lines 39-57 teaches a peripheral circuit of the switch matrix type and figure 4 shows a TFT switch matrix 51 of the switch matrix type, however, the newly claim switch matrix circuit is broader than the described peripheral circuit 51 of the switch matrix type in view of figure 4 showing a TFT switch matrix. Therefore, applicants arguments and amendment do not overcome this rejection.

8. On page 8 second full paragraph applicant presents arguments concerning the 112 first paragraph rejection based upon new matter. The reasons given above for the rejection based upon 35 USC 251 new matter apply here also.

9. In the paragraph spanning pages 8 and 9 applicant presents arguments concerning the 112 second paragraph rejection. The amendment to claim 34 overcomes this rejection.

10. On page 9 last full paragraph to page 10 first full paragraph applicant presents arguments concerning the recapture rejection. These arguments are not persuasive because applicant argued in the original patent in the 11/07/97 response in the sentence spanning pages 10 and 11 and the second sentence on page 11, lines 8-11 "Applicants note with this structural arrangement, functions of the peripheral circuits are transferred partially to the driver IC and circuits among the peripheral circuits, such as the driver IC which is required to be driven fast, is formed on the one substrate in the region which is not held between the pair of substrates, whereby with this construction, heat generation of the peripheral circuits including the driver IC can be suppressed and the size of the liquid crystal display apparatus itself can be reduced. Applicants submit that such feature as recited in claim 22 and the dependent claims, are not disclosed or taught in the cited art as will become clear from the following discussion." Thus, applicant argued the driver IC is formed on the one substrate in the region which is not held between the pair of substrates. This argued

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feature is not present in the amended claims. Thus, applicants arguments against recapture are not persuasive.

11. In the sentence spanning pages 13 and 14 applicant present an argument concerning Mochizuki, however, as discussed below Mochizuki teaches a connection between a driver circuit and the peripheral circuit. On page 14 lines 7-11 applicant presents an argument concerning Misawa, however, as discussed below Misawa teaches the position on the substrate the peripheral circuit is formed and teaches a connection between a driver circuit and the peripheral circuit.

12. The rejection base upon Morozumi, Aoki, Kato, and Hashimoto are withdrawn to simplify the issues.

Original Patent

13. The original patent, or an affidavit or declaration as to loss or inaccessibility of the original patent, must be received before this reissue application can be allowed. See 37 CFR 1.178. The offer to surrender the original patent is noted. 37 CFR 1.178 states:

§ 1.178 Original patent; continuing duty of applicant.

(a) The application for a reissue should be accompanied by either an offer to surrender the original patent, or the original patent itself, or if the original is lost or inaccessible, by a statement

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to that effect. The application may be accepted for examination in the absence of the original patent or the statement, but one or the other must be supplied before the application is allowed. If a reissue application is refused, the original patent, if surrendered, will be returned to applicant upon request.

(b) In any reissue application before the Office, the applicant must call to the attention of the Office any prior or concurrent proceedings in which the patent (for which reissue is requested) is or was involved, such as interferences, reissues, reexaminations, or litigations and the results of such proceedings (see also § 1.173(a)(1)).

[24 FR 10332, Dec. 22, 1959; 34 FR 18857, Nov. 26, 1969; revised, 65 FR 54604, Sept. 8, 2000, effective Nov. 7, 2000]

New Matter

14. Claims 24, 25, 27-46 and 47, if 47 becomes dependent upon claim 46, are rejected under 35 U.S.C. 251 as being based upon new matter added to the patent for which reissue is sought. The added material which is not supported by the prior patent is as follows:

In claim 46 applicant claims "analog image signals". The original specification described image signals but it did not describe analog image signals. The specification did not describe what the gray scale voltage generating circuit 410 generated and the specification did not describe what type of image signal the driver circuit 21 generates. The driver circuit could in response to gray scale voltage produce either analog or digital image signals since the image signal could be either be amplitude modulated (analog) or temporally modulated (digital).

In claims 25, 27, 34, 39, and 43 a semiconductor island annealed by laser irradiation is claimed and this was not described by the original specification. Column 8 lines 6-18 describes annealing by laser the peripheral region then by accident the gate electrode comes in contact with etchant. The claimed island corresponds to SiN 140 and a-Si 110 which covers the gate electrode which is in the claimed first display area and not the peripheral region. Column 12 lines 33-36 teaches laser annealing only the a-Si layer at the peripheral portion. Thus, the specification did not describe annealing the island but instead described annealing the peripheral region.

In claim 24 the driver circuit is claimed to be separate from the pair of substrates. This was not described by the original specification. Figures 9 and 10 clearly show driver circuit 21 formed on substrate 10 and column 10 lines 16-19 and 34-45 describes how driver circuit 21 is formed onto substrate 10 by COG technology.

Claims 32, 38, and 42 claim "an image signal peripheral circuit having a switch matrix". The described image signal peripheral circuit 51, described on column 6 lines 39-43 and illustrated in figure 4, shows a TFT switch matrix. Switches 301 are switches for passing Vdd to the column electrodes. The newly claim switch matrix circuit is broader than the described peripheral circuit 51 of the switch matrix type in view of figure 4 showing a TFT switch matrix and since a switch matrix circuit may use other circuit elements in addition to the TFTs to form the switch matrix.

Claim Rejections - 35 USC § 112 - First Paragraph

15. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

16. Claims 24, 25, 27-46 and 47, if 47 becomes dependent upon claim 46, are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention for the same reasons given in the above new matter rejection under 35 USC 251.

Claim Rejections - 35 USC § 112 - Second Paragraph

17. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

18. Claim 47 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In new claim 47 "the amplitude of the liquid crystal driving source voltage" lacks antecedent basis in the claim since claims 21 and 1 do not claim this limitation and it was not previously claimed in claim 47. If applicant changed the dependency of claim 47 from 21 to 26 then this rejection would be overcome.

Recapture

19. Claims 23-47 are rejected under 35 U.S.C. 251 as being an improper recapture of broadened claimed subject matter surrendered in the application for the patent upon which the present reissue is based. See *Hester Industries, Inc. v. Stein, Inc.*, 142 F.3d 1472, 46 USPQ2d 1641 (Fed. Cir. 1998); *In re Clement*, 131 F.3d 1464, 45 USPQ2d 1161 (Fed. Cir. 1997); *Ball Corp. v. United States*, 729 F.2d 1429, 1436, 221 USPQ 289, 295 (Fed. Cir. 1984). A broadening aspect is present in the reissue which was not present in the application for patent. The record of the application for the patent shows that the broadening aspect (in the reissue) relates to subject matter that applicant previously surrendered during the prosecution of the application. Accordingly, the narrow scope of the claims in the patent was not an error within the meaning of 35 U.S.C. 251, and the broader scope surrendered in the application for the patent cannot be recaptured by the filing of the present reissue application.

Using the three step test it is seen recapture has occurred. The steps are as follows: Step 1. Determine whether, and in what aspect(s), the reissue claims are broader than the patent claim. Step 2. Determine whether the broader aspect(s) of the reissued claims relate to surrendered subject matter. Step 3. Determine whether the reissued claims were materially narrowed in other respects to avoid the recapture rule. *Pannu*, 258 F.3d at 1371, 59 USPQ2d 1600.

Claims 23-31 and 47:

Claim 23 differs from patented claim 1 in a matter germane to the allowance of patented claim 1 as follows: applicant replaced lines 8-20 of patented claim 1 with lines 7-14 of pending claim 23 which does not have the limitations argued by applicant in the sentence spanning pages 10 and 11 and the second sentence on page 11, lines 8-11 and on page 12 second paragraph to page 13 last paragraph of the patent application's 11/7/97 amendment. Reissue claim 23 is broader than patented claim 1 because in claim 23 the driver circuit is arranged outside of a region which is held between said pair of substrates. The broadened portion of claim 23 corresponds to surrendered subject matter because patented claim 1 was amended to claim the driver circuit to be formed on one substrate of said pair of substrates in a driver integrated circuit region which is not held between said pair of substrates in order to overcome the prior art of record. Reissue claim 23 was not materially narrowed in the area of surrender because claim 23 places the driver circuit at any location other than between the substrates and patented claim 1 formed the driver circuit on one of the pair of substrates. The currently claimed location of the driver circuit is very broad. Thus, this replacement limitation of broadened claim 23 does not relate to the limitation added to patented claim 1 to define over the prior art of record. Thus, the reason for allowing patented claim 1 is not present in pending claim 23.

Claim 23 differs from patented claim 22 in a matter germane to the allowance of patented claim 22 as follows: applicant replaced lines 7-23 of patented claim 22 with lines 7-14 of pending claim 23 which does not have the limitations argued by applicant

as being allowable on page 6 of the patent application's 11/7/97 amendment. On page 6 applicant wrote "Thus, applicants submit that claim 24 corresponding to claim 19 written in independent form should now be in condition for allowance". In the original patent application's first office action the examiner indicated that claim 19/2/1 would be allowable in rewritten in independent form. The original Patent application's claim 24 (now patented claim 22) has all of the limitations of claim 19/2/1. Patented claim 22 has the limitation of claims 2 and 19 at lines 7-23. The broadened portion of claim 23 corresponds to surrendered subject matter because lines 13-23 of patented claim 22 are not present in broadened claim 23. The replacement limitations of broadened claim 23 do not relate to the limitations added to patented claim 22 to define over the prior art of record. Thus, the reason for allowing patented claim 22 is not present in pending claim 23.

Claim 24 fails to claim a subject matter to the allowance of patented claim 1 for the reasons given for parent claim 23 and because it claims that the "driver circuit is separate from said pair of substrates". Patented claims 1 and 22 claimed the driver circuit is either formed (claim 1) or bonded (claim 22) on at least one substrate.

Claim 25-31 and 47 similarly do not add to claim 23 the claim limitations related to the surrendered limitations that were added to the patented claims to overcome the prior art of record.

Claims 32-37 and 41:

Claim 32 differs from patented claim 1 in a matter germane to the allowance of patented claim 1 as follows: applicant replaced lines 8-20 of patented claim 1 with lines 7-10 of pending claim 32. The replaced lines do not have the limitations argued by applicant in the sentence spanning pages 10 and 11 and the second sentence on page 11, lines 8-11 and on page 12 second paragraph to page 13 last paragraph of the patent application's 11/7/97 amendment. Thus, these replacement limitations of broadened claim 32 do not relate to the limitations added to patented claim 1 to define over the prior art of record. Thus, the reason for allowing patented claim 1 is not present in pending claim 32.

Claim 32 differs from patented claim 22 in a matter germane to the allowance of patented claim 22 as follows: applicant replaced lines 7-23 of patented claim 22 with lines 7-10 of pending claim 32 which does not have the limitations argued by applicant as being allowable on page 6 of the patent application's 11/7/97 amendment. On page 6 applicant wrote "Thus, applicants submit that claim 24 corresponding to claim 19 written in independent form should now be in condition for allowance". In the original patent application's first office action the examiner indicated that claim 19/2/1 would be allowable in rewritten in independent form. The original Patent application's claim 24 (now patented claim 22) has all of the limitations of claim 19/2/1. Patented claim 22 has the limitation of claims 2 and 19 at lines 7-23. The broadened portion of claim 32 corresponds to surrendered subject matter because lines 13-23 of patented claim 22 are not present in broadened claim 32. The replacement limitations of broadened claim

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32 do not relate to the limitations added to patented claim 22 to define over the prior art of record. Thus, the reason for allowing patented claim 22 is not present in pending claim 32.

Claims 33-37 and 41 do not add to claim 32 the claim limitations related to the surrendered limitations that were added to the patented claims to overcome the prior art of record.

Claims 38-40:

Claim 38 differs from patented claim 1 in a matter germane to the allowance of patented claim 1 as follows: applicant replaced lines 8-20 of patented claim 1 with lines 7-10 of pending claim 38. The replaced lines do not have the limitations argued by applicant in the sentence spanning pages 10 and 11 and the second sentence on page 11, lines 8-11 and on page 12 second paragraph to page 13 last paragraph of the patent application's 11/7/97 amendment. Thus, these replacement limitations of broadened claim 38 do not relate to the limitations added to patented claim 1 to define over the prior art of record. Thus, the reason for allowing patented claim 1 is not present in pending claim 38.

Claim 38 differs from patented claim 22 in a matter germane to the allowance of patented claim 22 as follows: applicant replaced lines 7-23 of patented claim 22 with lines 7-10 of pending claim 38 which does not have the limitations argued by applicant as being allowable on page 6 of the patent application's 11/7/97 amendment. On page

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6 applicant wrote "Thus, applicants submit that claim 24 corresponding to claim 19 written in independent form should now be in condition for allowance". In the original patent application's first office action the examiner indicated that claim 19/2/1 would be allowable in rewritten in independent form. The original Patent application's claim 24 (now patented claim 22 has all of the limitations of claim 19/2/1. Patented claim 22 has the limitation of claims 2 and 19 at lines 7-23. The broadened portion of claim 38 corresponds to surrendered subject matter because lines 13-23 of patented claim 22 are not present in broadened claim 38. The replacement limitations of broadened claim 38 do not relate to the limitations added to patented claim 22 to define over the prior art of record. Thus, the reason for allowing patented claim 22 is not present in pending claim 38.

Claims 39-40 do not add to claim 38 the claim limitations related to the surrendered limitations that were added to the patented claims to overcome the prior art of record.

Claims 42-46:

Claim 42 differs from patented claim 1 in a matter germane to the allowance of patented claim 1 as follows: applicant replaced lines 8-20 of patented claim 1 with lines 7-10 of pending claim 42: The replaced lines do not have the limitations argued by applicant in the sentence spanning pages 10 and 11 and the second sentence on page 11, lines 8-11 and on page 12 second paragraph to page 13 last paragraph of the

patent application's 11/7/97 amendment. Thus, these replacement limitations of broadened claim 42 do not relate to the limitations added to patented claim 1 to define over the prior art of record. Thus, the reason for allowing patented claim 1 is not present in pending claim 42.

Claim 42 differs from patented claim 22 in a matter germane to the allowance of patented claim 22 as follows: applicant replaced lines 7-23 of patented claim 22 with lines 7-10 of pending claim 42. The replaced lines do not have the limitations argued by applicant as being allowable on page 6 of the patent application's 11/7/97 amendment. On page 6 applicant wrote "Thus, applicants submit that claim 24 corresponding to claim 19 written in independent form should now be in condition for allowance". In the original patent application's first office action the examiner indicated that claim 19/2/1 would be allowable in rewritten in independent form. Claim 24 has all of the limitations of claim 19/2/1. Patented claim 22 has the limitation of claims 2 and 19 at lines 7-23. The broadened portion of claim 42 corresponds to surrendered subject matter because lines 13-23 of patented claim 22 are not present in broadened claim 42. The replacement limitations of broadened claim 42 do not relate to the limitations added to patented claim 22 to define over the prior art of record. Thus, the reason for allowing patented claim 22 is not present in pending claim 42.

Claims 43-45 and 46 do not add to claim 38 the claim limitations related to the surrendered limitations that were added to the patented claims to overcome the prior art of record.

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Claim Rejections - 35 USC § 102

20. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

21. Claims 23-27, 29, 30, 32-34, 38, 39, 42, 43, 46 and 47 are rejected under 35 U.S.C. 102(e) as being anticipated by Mochizuki et al U.S. Patent No. 5,247,375.

Mochizuki teaches display area transistors and peripheral circuit transistors. Inherently Mochizuki teaches a driving circuit on a substrate external to the display substrate.

The following side by side analysis of claim 23 and Mochizuki illustrates how Mochizuki anticipates applicant's claims.

Pending claim 23	Mochizuki et al U.S. Patent No. 5,247,375
23. A liquid crystal display apparatus comprising:	Figures 1A and 1B.
a pair of substrates, at least one of which is transparent;	Lower glass substrate 10A and upper glass substrate 10B. Also note column 5 lines 33-35.

Continuation of previous page a liquid crystal layer formed by sandwiching a liquid crystal composition between said pair of substrates;	Continuation of previous page The liquid crystal material 14 is sandwiched between the two substrates as seen in figure 9.
a display region having a plurality of first semiconductor elements which are arranged in a matrix on one substrate of said pair of substrates;	Figure 1B.
at least one peripheral circuit having a plurality of second semiconductor elements arranged at a periphery of said display region, said at least one peripheral circuit being formed on said one substrate of said pair of substrates and at least one part of said at least one peripheral circuit being arranged in a peripheral circuit region which is held between said pair of substrates; and	Figure 1B illustrates data drive circuit area 19A and scan drive circuit 19B between both of the glass substrates.
at least one driver circuit which is electrically connected to said at least one peripheral circuit for driving said at least one peripheral circuit being arranged outside of a region which is held between said pair of substrates.	Inherently Mochizuki teaches a driving circuit on a substrate external to the display substrate for providing signals to the data drive circuit area 19A and scan drive circuit 19B.

Claim 24:

The driver circuit of Mochizuki is on one substrate, thus, it is separate from said pair of substrates.

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Claims 25 and 27:

Claims 25 and 27 claim annealing an island which is taught at column 9 lines 28-47 and column 10 line 53 which refers to laser annealing of the driver circuit being different than the laser annealing of the scanning circuit described in the preceding description at column 9 line 41 to column 10 line 50.

Claim 26:

Liquid crystals are generally driven with amplitudes no greater than about 5V.

Claim 29:

Inherently the drive circuit is a single circuit.

Claim 30:

Inherently the drive circuit is composed of at least two driver circuits.

Claim 32:

This claim is broader than claim 23 and is rejected for the reasons given for claim 23. The claimed switch matrix is broadly claimed and is met by drive circuit 13 illustrated in figure 1B as a switch matrix.

Claim 33:

Scanning circuit 12 is shown in Figure 1A as being formed on one substrate of the pair of substrates.

Claim 34:

Claim 34 claims annealing an island which is taught at column 9 lines 28-47 and column 10 line 53 which refers to laser annealing of the driver circuit being different than the laser annealing of the scanning circuit described in the preceding description at column 9 line 41 to column 10 line 50.

Claim 38:

This claim is broader than claim 23 and is rejected for the reasons given for claim 23. The claimed switch matrix is broadly claimed and is met by drive circuit 13 illustrated in figure 1B as a switch matrix. The display information generating circuit is inherent.

Claim 39:

Claim 39 claims annealing an island which is taught at column 9 lines 28-47 and column 10 line 53 which refers to laser annealing of the driver circuit being different than the laser annealing of the scanning circuit described in the preceding description at column 9 line 41 to column 10 line 50.

Claim 42:

This claim is broader than claim 23 and is rejected for the reasons given for claim 23. The claimed switch matrix is broadly claimed and is met by drive circuit 13 illustrated in figure 1B as a switch matrix. Generating clock pulses and image signals is inherent.

Claim 43:

Claim 43 claims annealing an island which is taught at column 9 lines 28-47 and column 10 line 53 which refers to laser annealing of the driver circuit being different than the laser annealing of the scanning circuit described in the preceding description at column 9 line 41 to column 10 line 50.

Claim 46:

Figure 1B shows data drive circuit 13 with switching transistors which are selected to momentarily switch a video signal onto a column corresponding to that portion of the video signal. Thus, the signal switched by the switching transistor is analog since that signal is being applied directly to the column line. Thus, the driver circuit provides an analog image signal.

Claim 47:

Liquid crystals are generally driven with amplitudes no greater than about 3V.

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22. Claims 23, 24, 26, 29, 30, 32, 33, 38, 42, 46, and 47 are rejected under 35 U.S.C. 102(b) as being anticipated by Misawa et al U.S. Patent No. 5,250,931. Misawa teaches display area transistors and peripheral circuit transistors. Inherently Misawa teaches a driving circuit on a substrate external to the display substrate.

The following side by side analysis of claim 23 and Misawa illustrates how Misawa anticipates applicant's claims.

Pending claim 23	Misawa et al U.S. Patent No. 5,250,931
23. A liquid crystal display apparatus comprising:	Column 4 lines 4-10.
a pair of substrates, at least one of which is transparent;	Figure 3B, transparent substrate 98 and substrate 86. Column 7 lines 5-8.
a liquid crystal layer formed by sandwiching a liquid crystal composition between said pair of substrates;	The liquid crystal material 96 is sandwiched between the two substrates as seen in figure 3B. Column 7 lines 5-8.
a display region having a plurality of first semiconductor elements which are arranged in a matrix on one substrate of said pair of substrates;	Figure 1B.
at least one peripheral circuit having a plurality of second semiconductor elements arranged at a periphery of said display region, said at least one peripheral circuit being formed on said one substrate of said pair of substrates and at least one part of said at least one peripheral circuit being arranged in a peripheral circuit region which is held between said pair of substrates; and	Column 11 lines 30-32 describes the source lines of the source driver circuit 160 as running between the top and bottom panel 160, thus, Misawa teaches a portion of the driver circuit is held between the pair of substrates forming panel 160.
at least one driver circuit which is electrically connected to said at least one peripheral circuit for driving said at least one peripheral circuit add being arranged outside of a region which is held between said pair of substrates.	Inherently Misawa teaches a driving circuit for driving the source line driver 12 and gate line driver 21, see figure 1 which illustrates where the driving circuit connects the source line driver and gate line driver at input terminals 34, 35, 36, 37 and 38. Column 5 lines 5-13.

Claim 24:

The driver circuit of Misawa is on one substrate, thus, it is separate from said pair of substrates.

Claim 26:

Liquid crystals are generally driven with amplitudes no greater than about 5V.

Claim 29:

Inherently the drive circuit is a single circuit.

Claim 30:

Inherently the drive circuit is composed of at least two driver circuits.

Claim 32:

This claim is broader than claim 23 and is rejected for the reasons given for claim 23. The claimed switch matrix is broadly claimed and is met by the switches 17-19 of source line driver 12 illustrated in figure 1 as a switch matrix.

Claim 33:

The source line driver circuit 12 of Misawa is on one substrate, thus, it is separate from said pair of substrates.

Claim 38:

This claim is broader than claim 23 and is rejected for the reasons given for claim 23. The claimed switch matrix is broadly claimed and is met by source line driver 12 illustrated in figure 1 as a switch matrix. The display information generating circuit is inherent to produce video signals V1, V2, V3, column 5 line 9.

Claim 42:

This claim is broader than claim 23 and is rejected for the reasons given for claim 23. The claimed switch matrix is broadly claimed and is met by source line driver 12 illustrated in figure 1 as a switch matrix. Misawa's driver circuit produces clock pulses, taught at column 5 line 7, and image signals, taught at column 5 line 9.

Claim 46:

Figure 1 shows source line driver circuit 12 with switching transistors 17-19 which are selected to momentarily switch a video signal V1, V2, V3 onto a column corresponding to that portion of the video signal. Thus, the signal switched by the switching transistor is analog since that signal is being applied directly to the source line. Thus, the driver circuit provides an analog image signal.

Claim 47:

Liquid crystals are generally driven with amplitudes no greater than about 3V.

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23. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffery A. Brier whose telephone number is (703) 305-4723. The examiner can normally be reached on M-F from 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi, can be reached at (703) 305-4713).

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



Jeffery A Brier
Primary Examiner
Art Unit 2672